UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P O Box 1450
Alexandria, Virginia 22313-1450
www uspto gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,183	04/13/2004	Philippe Lafon	TI-37335	3722

23494 7590 03/28/2008
TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER	
AMIN, JWALANT B	

ART UNIT	PAPER NUMBER
2628	

NOTIFICATION DATE	DELIVERY MODE
03/28/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com
uspto@dlemail.itg.ti.com

Office Action Summary	Application No.	Applicant(s)	
	10/823,183	LAFON, PHILIPPE	
	Examiner	Art Unit	
	JWALANT AMIN	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17 and 22-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 22-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/6/2008 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-17 and 22-27 have been considered but are moot in view of the new ground(s) of rejection.

3. Regarding claims 1-17 and 22-27, the applicant argues that Horton and MacInnis do not teach "… weight factor proportional to a plurality of luminance values in the digital graphics object indicating transparency." (see pg. 8-9 of applicant's remarks).

4. However, the it should be noted that the specification states that the luminance value in the compressed graphics object can indicate transparency or non-transparency (see pg. 13 paragraph [0039] of the specification; based on the specification, the examiner interprets that the luminance value indicating transparency and the luminance value indicating non-transparency are two different values; these luminance values correspond to the plurality of luminance values).

The examiner further interprets that although Horton teaches the limitations as stated above, Horton does not explicitly teach using weight factor proportional to a plurality of luminance values in the digital graphics object indicating transparency, to combine the digital graphics object and a digital picture. However, MacInnis teaches an alpha value (weight factor) included in YUV format dependent on luma (luminance), which is used to blend (overlay) a top-layer and a bottom-layer. MacInnis further teaches to pre-multiply luma values with the filtered alpha values to form the composite alpha values used to blend the graphics image and video (col. 7 lines 38-41, col. 9 lines 37-40, col. 16 lines 43-46, col. 46 lines 45-56, col. 111 lines 65-67, col. 112 lines 1-53, col. 18 lines 51-67, col. 120 lines 13-14; alpha value ... depend on ... alpha from chroma keying ... alpha from Y (luma) corresponds to weight factor proportional to luminance value; Y component having a value of zero indicates transparency and corresponds to one of the luminance value; Y component having a value other than zero indicates the pixel is opaque and corresponds to a different luminance value; thus “0" or “any value other than zero" corresponds to the plurality of luminance values that indicates transparency of the pixel). Therefore, it would have been obvious to one of ordinary skill in the art at the time of present invention to use alpha values in blending two graphics layer as taught by MacInnis into the system of Horton because composite alpha values formed by pre-multiplying alpha values with luma values are used blend the graphic image and the video that results in best visual quality display (col. 46 lines 45-56, col. 118 lines 56-60).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-4, 6-12, 16-17 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton (US 5,969,770), and further in view of MacInnis et al. (US 6,853,385; hereinafter MacInnis).

7. Regarding claim 1, Horton (Fig. 1, col. 2 lines 35-43 and lines 55-67, col. 3 lines 29-32 and lines 66-67, col. 4 lines 1-24, col. 5 lines 15-17, col. 7 lines 12-17, lines 49-58, col. 8 lines 4-8 and lines 32-35) teaches a processor (microprocessor) based method comprising combining (superimpose/overlay) a digital graphics object (OSD graphics/graphics image) and a digital picture (digital video signal/video image) while each of the digital graphics object and the digital picture are in compressed format (4:2:2 format), and displaying the combined digital graphic object and digital picture (display screen 19).

Although Horton teaches the limitations as stated above, Horton does not explicitly teach using weight factor proportional to a plurality of luminance values in the digital graphics object indicating transparency, to combine the digital graphics object and a digital picture. However, MacInnis teaches an alpha value (weight factor) included in YUV format dependent on luma (luminance), which is used to blend (overlay) a top-layer and a bottom-layer. MacInnis further teaches to pre-multiply luma values with the

filtered alpha values to form the composite alpha values used to blend the graphics image and video (col. 7 lines 38-41, col. 9 lines 37-40, col. 16 lines 43-46, col. 46 lines 45-56, col. 111 lines 65-67, col. 112 lines 1-53, col. 18 lines 51-67, col. 120 lines 13-14; alpha value ... depend on ... alpha from chroma keying ... alpha from Y (luma) corresponds to weight factor proportional to luminance value; Y component having a value of zero indicates transparency and corresponds to one of the luminance value; Y component having a value other than zero indicates the pixel is opaque and corresponds to a different luminance value; thus "0" or "any value other than zero" corresponds to the plurality of luminance values that indicates transparency of the pixel; the specification states that the luminance value in the compressed graphics object can indicate transparency or non-transparency, see pg. 13 paragraph [0039] of the specification; based on the specification, the examiner interprets that the luminance value indicating transparency and the luminance value indicating non-transparency are two different values; these luminance values correspond to the plurality of luminance values). Therefore, it would have been obvious to one of ordinary skill in the art at the time of present invention to use alpha values in blending two graphics layer as taught by MacInnis into the system of Horton because composite alpha values formed by pre-multiplying alpha values with luma values are used blend the graphic image and the video that results in best visual quality display (col. 46 lines 45-56, col. 118 lines 56-60).

8. Regarding claim 2, Horton teaches compressing the digital graphics object (OSD graphics) to be in the compressed format (4:2:2 format) (col. 7 lines 49-67 and col. 8 lines 1-8).

9. Regarding claim 4, Horton discloses all of the claimed limitations as stated above, except that Horton does not explicitly teach calculating the weight factor during compressing, and storing the weight factor within the digital graphics object. However, MacInnis teaches to convert raw graphics data (original format of graphics object) into YUVa format (compressed format) using YUV 4:2:2 plus an 8-bit alpha value (weight factor) for every pixel (col. 9 lines 24-40, col. 26 lines 3-17; pixel of graphic data containing the alpha value corresponds to storing the weight factor within the graphics object). Therefore, it would have been obvious to one of ordinary skill in the art at the time of present invention to determine the alpha value while converting the raw graphics data into YUVa format as taught by MacInnis and use it into the system of Horton because the graphics converter that converts the graphics data into a YUVa format, providing the data and the alpha values to the graphics blender, has a capacity of performing low pass filtering to filter out high frequency components needed (col. 26 lines 3-17).

10. Regarding claim 6, Horton teaches to compress the digital graphics object in 4:4:4 space to one of 4:2:2 space or 4:2:0 space (col. 7 lines 49-67 and col. 8 lines 1-8).

11. Regarding claim 10, Horton teaches combining while both the digital graphics object and the digital picture are in a 4:2:2 space format (col. 7 lines 12-17, lines 49-54, lines 57-58, col. 8 lines 4-8, lines 32-35).

12. Regarding claim 11, Horton teaches combining the digital graphics object and the digital picture (col. 7 lines 12-17, lines 49-54, lines 57-58, col. 8 lines 4-8, lines 32-35). Horton does not explicitly teach that the digital graphics object and the digital picture are

in 4:2:0 space format. However, Horton teaches 4:2:0 space format (col. 7 lines 17-22). Horton also teaches the graphic image sequence and video image sequence needs to be in the same format to insert a graphics image into a video image (col. 7 line 67, col. 8 lines 1-3; graphic image sequence corresponds to digital graphics object; video image corresponds to digital picture; insert corresponds to overlay). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to have the digital graphics object and the digital picture in compressed format 4:2:0, instead of 4:2:2 compressed format as taught by Horton. Applicant has not disclosed that using 4:2:0 compressed format provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with 4:2:2 compressed format of Horton because the processor workload for processing compressed digital data is significantly lower than that required for processing the same data in uncompressed form, and thus resulting in a better processor performance. Therefore, it would have been obvious to one of ordinary skill in this art to modify the compression format used by Horton to obtain the invention as specified in claim 17.

13. Regarding claim 12, Horton (Fig. 1, col. 2 lines 35-43 and lines 55-67, col. 3 lines 29-32, col. 5 lines 15-17, col. 7 lines 12-17, lines 49-58, col. 8 lines 4-8 and lines 32-35) teaches a system (digital satellite television system) comprising a processor (microprocessor), a memory coupled to the processor ("read-only" memory (ROM)), and the processor executing a program (in response to a control program) overlaying (superimpose/overlay) a digital graphics object (OSD graphics/graphics image) and a

digital picture (digital video signal/video image) while each of the digital graphics object and the digital picture are in compressed format (4:2:2 format).

Although Horton teaches the limitations as stated above, Horton does not explicitly teach using weight factor proportional to a plurality of luminance values in the digital graphics object indicating transparency, to combine the digital graphics object and a digital picture. However, MacInnis teaches an alpha value (weight factor) included in YUV format dependent on luma (luminance), which is used to blend (overlay) a top-layer and a bottom-layer. MacInnis further teaches to pre-multiply luma values with the filtered alpha values to form the composite alpha values used to blend the graphics image and video (col. 7 lines 38-41, col. 9 lines 37-40, col. 16 lines 43-46, col. 46 lines 45-56, col. 111 lines 65-67, col. 112 lines 1-53, col. 18 lines 51-67, col. 120 lines 13-14; alpha value ... depend on ... alpha from chroma keying ... alpha from Y (luma) corresponds to weight factor proportional to luminance value; Y component having a value of zero indicates transparency and corresponds to one of the luminance value; Y component having a value other than zero indicates the pixel is opaque and corresponds to a different luminance value; thus "0" or "any value other than zero" corresponds to the plurality of luminance values that indicates transparency of the pixel; the specification states that the luminance value in the compressed graphics object can indicate transparency or non-transparency, see pg. 13 paragraph [0039] of the specification; based on the specification, the examiner interprets that the luminance value indicating transparency and the luminance value indicating non-transparency are two different values; these luminance values correspond to the plurality of luminance

values). Therefore, it would have been obvious to one of ordinary skill in the art at the time of present invention to use alpha values in blending two graphics layer as taught by MacInnis into the system of Horton because composite alpha values formed by pre-multiplying alpha values with luma values are used blend the graphic image and the video that results in best visual quality display (col. 46 lines 45-56, col. 118 lines 56-60).

14. Regarding claim 16, Horton teaches the processor (microprocessor, Fig. 1, col. 5 lines 15-17) executing the program overlays the digital graphics object and the digital picture while each of the digital graphics object and the digital picture are in a 4:2:2 space format (col. 7 lines 12-17, lines 49-54, lines 57-58, col. 8 lines 4-8, lines 32-35).

15. Regarding claim 17, the statements presented above, with respect to claims 11 and 12, are incorporated herein.

16. Regarding claim 22, Horton teaches a computer readable medium ("read-only" memory (ROM)) storing a program (control program) (Fig. 1, col. 5 lines 15-17) that when executed by a processor, performs a method comprising overlaying a graphics object onto a picture using a weight factor proportional to a plurality of luminance values in the graphics object that indicate transparency, while both the graphics object and the picture are in a compressed format (col. 7 lines 12-17, lines 49-54, lines 57-58, col. 8 lines 4-8, lines 32-35). For further details, refer to the rejection of claim 12.

17. Regarding claim 23, Horton discloses all of the claimed limitations as stated above, except that Horton does not explicitly teach to overlay a chrominance value in the graphics object with a chrominance value onto the picture based on the weight factor, the weight factor proportional to a number of luminance values in the graphics

object having values that indicate transparency. However, MacInnis teaches an alpha value included in YUV format dependent on keying (chroma or luma) and luma, which is used to blend a top-layer and a bottom-layer (col. 7 lines 38-41, col. 9 lines 37-40, col. 35 lines 11-29, col. 46 lines 45-56, col. 112 line 1, lines 16-23, lines 32-42 and lines 47-53, col. 118 lines 51-67, col. 120 lines 13-14i alpha/alpha value/composite alpha value corresponds to weight factor; alpha value ... depend on ... alpha from chroma keying ... alpha from Y (luma) corresponds to weight factor proportional to luminance value; composite alpha value based on alpha values per pixel corresponds to summation of alpha values of each pixel in the object; when the Y component ... pixel is typically set to be transparent corresponds to weight factor proportional to a number of luminance values in the graphics object having values indicating transparency; video signal/bottom layer corresponds to digital picture; graphics data/top layer corresponds to graphics object; blend corresponds to overlay; the chroma ... from the luma corresponds overlaying a chrominance value). Therefore, it would have been obvious to one of ordinary skill in the art at the time of present invention to blend the chroma values of two layers separately as taught by MacInnis and use it into the system of Horton because such a blending helps to achieve best visual quality (col. 118 lines 56-57).

18. Regarding claim 24, Horton discloses all of the claimed limitations as stated above, except that Horton does not explicitly teach to calculate the weight factor contemporaneously with the overlaying. However, MacInnis teaches a blending method to maintain an intermediate alpha value at each stage of the blending operation (col. 47 lines 64-66, col. 48 lines 1-19, col. 49 lines 12-25; blending corresponds to overlaying;

intermediate alpha value/alpha value corresponds to weight factor; at each stage ... alpha value is maintained corresponds to calculating the weight factor contemporaneously with overlaying; calculated using a keying function corresponds to calculating the weight factor). Therefore, it would have been obvious to one of ordinary skill in the art at the time of present invention to calculate intermediate alpha values as taught by MacInnis and use it into the system of Horton because intermediate alpha value thus calculated and maintained is later used for blending with the layers that are not to be filtered (col. 47 lines 64-67).

19. Regarding claim 25, Horton discloses all of the claimed limitations as stated above, except that Horton does not explicitly teach to read the weight factor from the graphics object prior to the overlay of the chrominance values. However, MacInnis teaches a blending method in which alpha values (weight factor) can be read from the memory as part of the pixel value that corresponds to the upper layers (col. 47 lines 52-54, col. 49 lines 12-67; upper layers may be graphics windows corresponds to graphics object; pixel values of the upper layers, that is read from the memory, contains the alpha values). Therefore, it would have been obvious to one of ordinary skill in the art at the time of present invention to read the alpha value from the pixel of upper layer of graphics object as taught by MacInnis and use it into the system of Horton because before compositing begins, these alpha values are multiplied with chrominance values (U and V values) of a pixel of the current layer before overlaying with the chrominance values of the pixel of the next layer by accounting for the offset nature of the chrominance values (U and V values) (col. 49 lines 32-57).

20. Regarding claim 26, the statements presented above, with respect to claims 22 and 16, are incorporated herein.

21. Regarding claim 27, the statements presented above, with respect to claims 11 and 22, are incorporated herein.

22. Regarding claim 3, the statements presented above, with respect to claims 2 and 23, are incorporated herein.

23. Regarding claim 7, the statements presented above, with respect to claims 1 and 23, are incorporated herein.

24. Regarding claim 8, the statements presented above, with respect to claims 7 and 24, are incorporated herein.

25. Regarding claim 9, the statements presented above, with respect to claims 7 and 25, are incorporated herein.

26. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horton and MacInnis, and further in view of Chauvel et al. (US 6,369,855; hereinafter Chauvel).

27. Regarding claim 5, the combination of Horton and MacInnis disclose all of the claimed limitations as stated above, except that they do not explicitly teach storing the weight factor in the least significant bits of the chrominance value. However, Chauvel teaches to determine the amount of blending (weight factor) by the LSB of the chrominance components of the pixel of the bitmap (col. 113 lines 36-67, col. 114 lines 43-67; the blend factor corresponds to the LSB of the Cb and Cr values that are stored in the CLUT entry corresponding to that pixel of the bitmap 4:2:2 displays corresponds

to storing the weight factor in LSB of the chrominance values). Therefore, it would have been obvious to one of ordinary skill in the art at the time of present invention to calculate the weight factor and store it within the graphics object as taught by Chauvel and use it into the system of Horton and MacInnis because the blending factor determined by the LSB of the chrominance components of the pixel supports color blending on the pixel level for the bitmap displays (col. 114 lines 49-54).

28. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horton and MacInnis, and further in view of Yahav et al. (US 6,057,909; hereinafter Yahav).

29. Regarding claim 13, the combination of Horton and MacInnis discloses all of the claimed limitations as stated above, except that they do not explicitly teach that the system comprises of a charge coupled device (CCD) array coupled to the processor, and the processor acquires the digital picture using the CCD array. However, Yahav teaches a CCD array coupled to a video processor (Fig. 10, col. 19 lines 39-44; camera 110 corresponds to the system; video processor 116 corresponds to the processor; matrix array 112 corresponds to the CCD array; image-responsive video signals corresponds to digital picture; receives image-responsive video signals corresponds to acquiring digital picture). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a CCD array of Yahav into the system of Horton and MacInnis because a CCD camera produces an image of a narrow, linear portion of an object or scene (col. 19 lines 30-32).

30. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton and MacInnis, and further in view of Callway et al. (US 2003/0027517; hereinafter Callway).

31. Regarding claim 14, Horton teaches a radio receiver coupled to the processor receiving at least one of the digital pictures or the digital graphics object through the transceiver (Fig. 1, col. 3 lines 29-32, col. 4 lines 4-7; television signals corresponds to digital picture; antenna assembly corresponds to radio receiver; satellite receiver with microprocessor corresponds to processor; retransmitted television signals are received corresponds to receiving digital picture).

Although the combination of Horton and MacInnis disclose the claimed limitations as stated above, they do not explicitly teach that the receiver is a wireless transceiver. However, Callway teaches a wireless transceiver coupled to a graphics processing circuit that includes a wireless receiver to receive the transmitted data (Fig. 1, pg. 2 [0016] lines 6-9, pg. 5 [0043] lines 8-13, [0045] lines 13-15; radio frequency based wireless transceiver corresponds to wireless radio transceiver; graphics processing circuit corresponds to processor). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the wireless radio transceiver of Callway into the system of Horton and MacInnis because a wireless system does not require cabling to provide image data from an image source to a receiving unit (pg. 2 [0015] last four lines).

32. Regarding claim 15, the combination of Horton and MacInnis discloses all of the claimed limitations as stated above, except that they do not explicitly teach that the

radio transceiver coupled to the processor transmits the digital picture created by the overlaying of the digital graphics object and the digital picture using the transceiver. However, Callway teaches a wireless transceiver coupled to a graphics processing circuit (Fig. 1, pg. 2 [0016] lines 6-9 and [0022] last 5 lines, pg.3 [0024] lines 1-4, pg. 5 [0043] lines 8-13; radio frequency based wireless transceiver corresponds to wireless radio transceiver; graphics processing circuit corresponds to processor; wireless transmitter corresponds to wireless transceiver; encoding corresponds to compressing; encoded rendered graphics data corresponds to digital graphics object; recompressed decoded video corresponds to digital picture; modulated compressed frames corresponds to digital picture created by the overlaying). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the wireless radio transceiver of Callway into the system of Horton and MacInnis because a wireless system does not require cabling to provide image data from an image source to a receiving unit (pg. 2 [0015] last four lines).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JWALANT AMIN whose telephone number is (571)272-2455. The examiner can normally be reached on 9:30 a.m. - 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman can be reached on 571-272-7653. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

***

/Mark K Zimmerman/
Supervisory Patent Examiner, Art Unit 2628